

STUDIES IN MORACEAE II.

THE GENUS CLARISIA RUIZ ET PAVON AND ITS SYNONYMS, WITH A DISCUSSION OF THE GENERIC NAME.

by

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(With Tab. IX—XI)

Las descripciones exactas de las plantas son absolutamente necesarias para el verdadero conocimiento de éllas; y los caracteres tomados de sus partes; són el medio para distinguirlas bien.

(*Pedro Abat in Mem. Acad. Soc. Med. Sevilla, X*
(1792) p. 418.)

1. *Clarisia Ruiz et Pavon* and *Clarisia Abat*.

The Moraceous genus *Clarisia* was described by Ruiz et Pavon in 1794 in "Florae Peruvianaæ, et Chilensis Prodromus" p. 128. This generic name must be rejected, if it is not placed on the list of *Nomina Generica Conservanda*, as in 1792 there had already been published a genus of this name by Pedro Abat. In the list of genera recommended for placing on the list of *Nomina Generica Conservanda* (Kew Bulletin 1935 pp. 341-544). Mr. Weatherby mentions *Clarisia* R. et P. I quote here what he writes on *Clarisia* Abat: „Placed by Sprengei, L. Gen. Pl. ed. 9, I. 202 (1830) in synonymy under *Anredera* Juss. (1789). He has apparently been followed by all subsequent authors who have noticed the name at all. I have not seen Abat's publication. If the date is correctly given by Dalla Torre & Harms and the genus adequately published, *Clarisia* R. & P. must be conserved if it is to be retained." As far as can be judged from literature no botanists have seen Abat's publication. This is not to be wondered, as Abat's paper was published in a scarcely spread periodical. I have tried to obtain this periodical in the Netherlands, in London and Paris but nowhere I could get hold of it. Thanks to the kind assistance of Prof. Cuatrecasas of Ma-

drid I could receive a copy of this paper and a photograph of the plate from the original in the library at Sevilla. A b a t's paper was published in "Memorias de la Real Sociedad de Medicina, y Demas Ciencias de Sevilla, Tomo Decimo. 1792. pp. 418-438". The name of the periodical was cited by S p r e n g e l as "Acta etc." The word 'Acta' does not occur in the completely copied title of the periodical which I received from Prof. Cuatrecasas, so apparently S p r e n g e l must have been mistaken. The publication is a communication made by P e d r o A b a t, Correspondiente del Real Jardín Botánico de Madrid, y Socio Botanico, to the Society mentioned in the title of the periodical.

A b a t begins his paper with a statement of the necessity of great exactness in the decription of plants which is of course still true and especially for the plants we are dealing with in this paper. Therefore I have started my present paper with the same words as A b a t did nearly 150 years ago. In the first part of his paper, A b a t gives an account of the literature dealing with his plant. He quotes the words of H a n s S l o a n e on *Fagopyrum scandens* and concludes from S l o a n e's description that it is the same species as he (A b a t) demonstrated before the Society. Then he writes extensively on L i n n é's *Polygonum scandens* L. His conclusion from the description of L i n n a e u s is that *Polygonum scandens* L. is not S l o a n e's *Fagopyrum scandens*, though L i n n é placed the latter in synonymy under his *Polygonum scandens*. S l o a n e's plant of which he shew a living specimen, is according to him quite different from *Polygonum scandens* L. from which he had brought a herbarium specimen.

It is surprising that A b a t concluded from the few lines in L i n n a e u s' Species Plantarum on this plant, that *Polygonum scandens* L. must be a true *Polygonum*. As may be seen from the quotation of A b a t's conclusion, he thought it inconceivable that a botanist would take his plant for a *Polygonum*. However, I can not agree with A b a t that the description and the plate given by H a n s S l o a n e (A voyage to the Isl. Madera, Barbados, Nieves, S. Christophers and Jamaica with the Nat. Hist. vol. I. 1707. p. 138, tab. 90 fig. 1) are so clear that one can recognise the plant without any doubt. He is to be admired so much the more for his doing so, but, I think he has gone too far in his criticism of L i n n a e u s, while it can be understood from the rather poor description of this plant by S l o a n e that the great Swede failed to identify it. As will be discussed below, it could be proved that L i n n a e u s' plant really belongs to the genus *Polygonum*. Going through the literature one observes that those

botanists working on *Polygonaceae* always have treated *Polygonum scandens* L. as a true *Polygonum*, whilst those working on *Basellaceae* cite this species in synonymy with *Anredera scandens* (L.) Moq. I have found only one recent publication where *Polygonum scandens* L. was cited as a mixture of two species viz. Percy Wilson, who in North American Flora vol. 21. part 4 (1932) p. 337, cites under *Anredera vesicaria* (Lam.) Gaertn. (= *Anredera scandens* Moq.) *Polygonum scandens* L. in part. Wilson does not mention to what species belongs the remaining part of Linneé's *Polygonum scandens*. He ought to have cited: *Polygonum scandens* L. quoad syn. *Fagopyrum scandens* Sloane. Only in the Flora of Jamaica by Fawcett and Rendle (Vol. III. part 1. 1914. p. 174) there is a reference to the type of Linnaeus. In the paragraph on the literature of *Anredera scandens* (L.) Moq. they write: "Type in Herb. Linn." But, there are no further statements that they have compared Sloane's plant, which is cited, with Linneé's type. Mr. Taylor (London) kindly informed me that Linneé's *Polygonum scandens* in the Linnean Herbarium is totally different from Sloane's specimen in the herbarium of the Nat. Hist. Mus. and appears to be a true *Polygonum*. Mr. Taylor states that *P. clinode* Mich. appears to be a good match of the Linnean type. This tallies exactly with the conception given in the American Floras, where *P. scandens* L. is described as closely related to *P. clinode* Mich.

Next Abat discussed Jussieu's publication of *Anredera*. He pointed out that Jussieu noted very well that this plant belongs to a new genus, though owing to the fact that Jussieu had herbarium material only, his description is rather incomplete. Therefore Abat gave a very good description of this plant with a plate (see Tab. IX) under the name *Clarisia* Abat, citing in synonymy *Fagopyrum* Sloane, *Polygonum* L., *Anredera* Juss. Abat's paper ends with a conclusion, which I will cite here at length as there are some remarkable critical lines on Linneé's work and especially as he stated there why he gave the genus a new name.

CONCLUSION.

Vistos los caracteres genericos de las partes de la fructificación de esta planta, resulta su colocación en la clase PENTANDRIA, y en el orden MONOGYNIA del metodo sexual de Lineo. Falta ahora su denominacion genérica. Hasta la impresión del *Genera plantarum* del mencionado Jussieu fué supuesta esta planta por una especie del género POLYGONUM, pero habiendo examinado las partes de su fructificación, aunque en esqueleto, la determinó este por un género nuevo, dándola a conocer con el nombre de

ANREDERA: y en efecto habiendo hecho el A. un examen más prolixo de la misma planta, por la proporción de tenerla viva, y la comparación competente, conviene con el sabio botánico francés, en que es un género distinto. A la verdad ningun botánico se atreverá a determinar por POLYGONUM nuestra planta, la qual consta de caliz y corola, hallándose solamente en aquella unu u otro: el caliz de la nuestra consta de dos hojitas aquilladas, y en la *carina* de cada una se advierte una membrana que la circuye; quando en el género POLYGONUM el caliz es de una pieza hendida en cinco partes, sin quilla ni membrana alguna: caracteres todos que denotan una estructura singular y diferente bastantes para distinguir las plantas mencionadas. El que se quiera cerciorar, anade el Sr. Abat, con quan menos motivos ha formado Lineo algunos generos nuevos, registre su *Genera plantarum* haciendo el examen de las plantas vivas de sus especies, y hallara el numero de notas singulares y diferentes de que se valió algunas veces el sabio Sueco.

Siendo pues tan distintos muchos de los caracteres de las partes de la fructificación de nuestra planta, se debe determinar precisamente por genero nuevo, segun los preceptos del citado Lineo: con arreglo a los quales no se conforma el A. con el nombre de ANREDERA; porque no se deriva este de los idiomas griego o latino, precepto tan recomendado en el aforismo 229, pero no vieniendo, como advierte el Sr. Abat, sino del verbo español *enredar*, sincopado el termino *enredadera* en *enredera*, mudada la *en* en *an*, segun la pronunciación francesa, de que resultó el nombre genérico adoptado por Jussieu; juzga el A. por despreciable el tal nombre, y pasa a denominar su planta con otra expresión, fundado en motivo poderoso, que la hagan subsistente, sin que quede al arbitrio de ninguno mudarla en lo sucesivo.

Son notorios en el dia los méritos literarios del Dr. D. Miguel Barnades, el hijo, a quien por su singular aplicación y adelantamientos en la Botánica, concedió S.M. una decente pensión, y ultimamente se ha dignado conferirle la enseñanza de esta ciencia, eligiéndole por segundo Catedrático de Botánica en su Real Jardín de Madrid. Con este motivo, y teniendo presente por consejo de Lineo, que a los sujetos que tienen contraídos méritos en esta ciencia se les debe dedicar alguna planta para hacerlos memorables; no se ha detenido el Sr. Abat, siguiendo el exemplo de otros sabios, en dedicar su planta al Dr. Barnades y Claris, llamandola CLARISIA.

Se abstiene por ahora de darla nombre específico, por ser única en el género, fundado en los cánones de Lineo, y en quanto a el *trivial*, le ha parecido oportuno el de VOLUBILIS, con lo qual queda denominada CLARISIA VOLUBILIS.

As one will observe from the quotation A b a t changed J u s s i e u's name *Anredera* into *Clarisia* because it was not derivated from the Latin or Greek and since the name was based on the Spanish *enredadera*. As A b a t knew very well that the earlier name of his genus was *Anredera* and under Art. 59 of the Intern. Rules of Botan. Nomenclature a name must not be rejected, merely because it is badly chosen, A b a t's name *Clarisia* is illegitimate (Art. 60) being superfluous when published. Though A b a t's *Clarisia* is illegitimate, it remains an earlier homonym (Art. 61) of *Clarisia* Ruiz et Pavon. However, *Clarisia*

R. & P. has been used for more than 100 years, and *Clarisia*-*Abat* has never been used at all. Therefore I wholly agree with the proposal in the Kew Bulletin mentioned above to conserve *Clarisia* R. & P., though there are some synonyms available to take the place of *Clarisia* R. & P. I shall point out in the next paragraph why it does not seem advisable to take up one of these synonyms.

2. Sahagunia Liebm., Acanthinophyllum Fr. Allem. and Soaresia Fr. Allem.

In 1851 (Kon. Danske Videnskab. Selsk. Nat. og Mathem. II. p. 316) Liebmann described the genus *Sahagunia* Liebm. with one species *Sahagunia mexicana* Liebm. from Mexico. Up to the present this genus has been kept up. In the course of the years several other species of this genus have been described, though it is peculiar that a specimen collected by Spruce (n. 3279), which already by Bentham and Hooker (Genera Plantarium III. pars. I. 1880. p. 377) was inserted under *Sahagunia* as "species inedita", has still not been described, although it is certainly a new species (in this paper *Clarisia Spruceana* Lanj.). The genera *Clarisia* R. & P. and *Sahagunia* Liebm. differ in one point only. The female inflorescence is racemiform in *Clarisia racemosa* R. & P. whereas it is capituliform in *Sahagunia* Liebm. As there are no other differences to be found and as especially the resemblance of the male flowers and inflorescences is very striking, I think there is no objection to unite both genera. Moreover the difference in the development of the female inflorescence is merely quantitative viz. the length of the peduncle. Also by Bentham and Hooker (Gen. Plant. l. c.) and by Engler (Nat. Pflanzenfam. III. 1. 1889. pp. 80-82) the scantiness of the differences between these two genera was noted. Engler said "Im wesentlichen wie vorige Gattung", and the lack of good differential characters between these two genera is still more clearly shown in his determination key, where he writes:

b. ♂ Bl. in Scheinähren, ♀ Bl. in Scheinköpfchen. Diöcisch.

27. Clarisia.

c. ♀ Bl. in Scheinköpfchen, ♂ in Scheinähren. Diöcisch...

28. Sahagunia.

It is not clear to me how one can identify the plants with such a key. Moreover it is wrong, as the ♀ inflorescences of *Clarisia* R. & P. are not capituliform, as is stated above. Engler's key does not correspond with his description of *Clarisia* R. & P.

either, where he states: „♀ Bl. in kurzen Scheintrauben”. I can not take it that such mistakes are only due to ordinary slips of the pen or printer's errors, as they are too serious. Besides, in the same group *Artocarpoideae-Euartocarpeae* there are to be found still more of such peculiar mistakes. In the description of this group is said "Blütenstand eine Scheintraube, Scheinähre oder Scheinköpfchen", whereas in the key is stated "a. ♂ und ♀ Bl. in Trauben(?) oder lockeren Aehren(?). Diöcisch... 26. *Sorocea*.", and in the description of the genus *Sorocea* St. Hil. the interrogation-marks too have been omitted. It is to be hoped that in the second edition of "Die natürlichen Pflanzenfamilien" this family will be thoroughly revised.

The genus *Sabagunia* Liebm. has one later synonym *Acanthinocephalum* Fr. Allem. Revista Brazileira Jornal de Ciencias, Letras e artes. Tomo I. Numero 3. Janeiro de 1858. p. 368; according to Bentham and Hooker also in Palestr. Scient. Rio Jan. 1858. p. 215). In this paper the species *Acanthinocephalum strepitans* Fr. Allem. is very completely and well described, and it is accompanied by a well-drawn plate (see Tab. X). Without doubt this species belongs to the genus *Sabagunia* Liebm. to which it was transferred by Bentham and Hooker in Genera Plantarum (l. c. see under *Clarisia* R & P.). Erroneously Engler made this new combination in Pflanzenfamilien again, apparently he had overlooked the publication by Bentham and Hooker under *Clarisia*. It will be understood that this species is placed by me in the genus *Clarisia* R. & P.

Clarisia R. & P., too, has one later synonym, *Soaresia* Fr. Allem. (Archivos da Palestro Scientifica do Rio de Janeiro Vol. I. 1858. p. 142 = Revista Brazileira Vol. I. 1857; most of Freire Allemao's papers were published twice and especially the difference in the date is confusing; I am not sure what periodical has to be taken as the first publication). The genus is described with one species *Soaresia nitida* Fr. Allem. This species is identic with *Clarisia racemosa* R. & P. The description and the plate (see Tab. XI) are much better than those of Ruiz and Pavon.

Without any doubt the two species are identical. Though I did not see Allemao's type (most of Allemao's plants are lost), his figures are so well drawn that one can see at once that the plants cited here under *Clarisia racemosa* R. & P. belong to the same species. Neither did I see the type of Ruiz and Pavon, but Prof. Cuatrecasas kindly stated that a branch of one of the specimens in the Utrecht Herbarium is identic

with the type¹⁾). It is rather strange that Freire Allemão did not observe that his *Acanthinophyllum* and his *Soaresia* are closely related, as his descriptions and figures are excellent. *Soaresia* Fr. Allem. has one reported homonym *Soaresia* Sch.-Bip. (Pollichia XX-XXI. 1863. p. 376), a genus belonging to the Compositae. Although *Soaresia* Fr. Allem. could take the place of *Clarisia* R. & P., I think it better as said above to conserve the latter. *Soaresia* Sch.-Bip. can be placed on the list of Nomina Generica Conservanda, as this genus is used by all authors and there is no further synonym available (see Miss Green in Kew Bulletin 1935. p. 495.), whereas *Soaresia* Fr. Allem. has never been used (*Soaresia ilicifolia* Glaz. is a nomen nudum, and does not belong to this genus). There are no objections to use the name *Sahagunia* Liebm. instead of *Clarisia* R. & P. and with good reason as this genus has no further synonyms and has been kept up by all botanists. However, I think it advisable to reserve the name *Sahagunia* Liebm. for those species which have been placed in that genus by previous authors. Thus, the genus *Sahagunia* Liebm. can always be used by those botanists who do not agree with the including of this genus in *Clarisia* R. & P. For the same reason *Acanthinophyllum* Fr. Allem., which has been considered a synonym of *Sahagunia* Liebm. by all botanists, can not be used either.

Summarizing my remarks given above, I can give the following conclusion: *Clarisia* R. & P., *Sahagunia* Liebm., *Acanthinophyllum* Fr. Allem. and *Soaresia* Fr. Allem. are synonyms. *Clarisia* R. & P. and *Soaresia* Sch.-Bip. are to be placed on the list of Nomina Generica Conservanda, and *Clarisia* Abat and *Soaresia* Fr. Allem. on the list of Nomina Generica Rejicienda.

¹⁾ Macbride (Publ. Field Mus. Nat. Hist. Bot. Ser. XI. 1931. p. 15) made a new combination *Clarisia nitida* (Fr. Allem.) Macbride, based on *Soaresia nitida* Fr. Allem., of which he saw a specimen collected by Ducke (n. 16606), which was distributed as *Clarisia racemosa* R. & P. He stated that the species of Freire Allemão and the specimen of Ducke are not identical with *Clarisia racemosa* R. & P. which he studied in the herb. Boissier, Geneva. He did not say who collected the specimen of *Cl. racemosa* R. & P. and it is unlikely that it was the type. As this paper was already in the press when my attention was drawn to Macbride's notes by a paper of Ducke (Archivos Inst. Biol. Veg. vol. 2. 1935. p. 30), I had not the opportunity to study the specimens in the herb. Geneva. The description by Macbride of *Clarisia racemosa* R. & P. does not in the least resemble our specimens (including Ducke 16606), of which one has been compared with the type in Madrid. Ducke erroneously referred the new combination to Bentham et Hooker, who did not actually publish it.

3. Material studied, and Acknowledgements.

At the end of this paper a synopsis with keys and descriptions of the genus *Clarisia* Ruiz et Pavon sensu Lanj. is given. For this treatment I have studied the material of the following Herbaria: Kew (K.); Brussel (Br.); Natural History Museum, London (N.-H.); Paris (P.); Leiden (L.); Utrecht (U.). I wish to express here my sincere thanks to the Directors of these Herbaria for their kind hospitality and assistance and for sending on loan some of the material. I am greatly indebted to Prof. Cuatrecasas (Madrid) for comparing my specimen of *Clarisia racemosa* R. & P. with the type and for the specimen of *Clarisia biflora* R. & P. and for the copy of Abat's paper, to Dr. Ramsbottom (London) for the photograph of *Acanthinophyllum strepitans*, and to Dr. Taylor (London) for his information on the plants of Linné and Sloane.

4. General taxonomical Remarks and geographical Distribution.

The delimitation of the species is very difficult as the number of specimens is very small. Perhaps it will be proved that some of my species must be cancelled. For the present it seemed advisable to describe several species, although the distinctions are rather slight. Thus, one gets a better survey of the genus. Since the collected specimens are few in number, at present it will be easier, with more and extensive descriptions, to assign a place to new collections. Without any doubt *Cl. mexicana* (Liebm.) Lanj., *Cl. colombiana* (Rusby) Lanj. and *Cl. mattogrossensis* Lanj. belong in one group, and *Cl. strepitans* (Fr. Allem.) Lanj. and *Cl. Spruceana* Lanj. to another. Especially *Cl. strepitans* is very variable. I have provisionally described the Guiana specimens as a var. *guianensis* Lanj. to that species, although it may be proved that there are no objections to insert them in the species, whereas it is probable too that other botanists are inclined to treat these specimens as a good species. All this will be discussed with the species. As one will see from the specimens cited (the specimens which I have studied are marked with a !), I did not study the type-material of several species. For some species it was impossible (Fr. Allem), and in some other species not important. I did not see the specimen of *Cl. urophylla* (Donn. Sm.) Lanj. and cannot say with certainty that this species belongs to the genus *Clarisia* (*Sahagunia*) at all, but the description leaves no doubt that if it belongs in the genus it has to be kept apart.

I know perfectly well that for a monographical treatment

one must see more material, but, yet I hope to have enlarged our knowledge of this difficult genus, which needs careful descriptions and study of the literature.

It is obvious that, by the scantiness of the material, it is not possible to give a good outline of the geographical distribution of the species. I can give here a few facts and some suggestions only. On the map in fig. 1 some areas are given. Number 1 gives the distribution of *Cl. racemosa* R. & P. This species is found chiefly in Amazonian Brazil and Peru, going south as far as Rio de Janeiro. Number 2 shows the area of *Cl. strepitans* (Fr. Allem.) Lanj. and its varieties and of the related *Cl. Spruceana* Lanj. This "group" goes farther North (Guiana) and does not reach Peru. Area n. 3 gives the distribution of the group of *Cl. mexicana* (Liebm.) Lanj. (*Cl. biflora*, *colombiana*, *matto-grossensis*, *urophylla*). It goes from Southern Mexico along the mountain region as far as Northern Peru ending in Matto

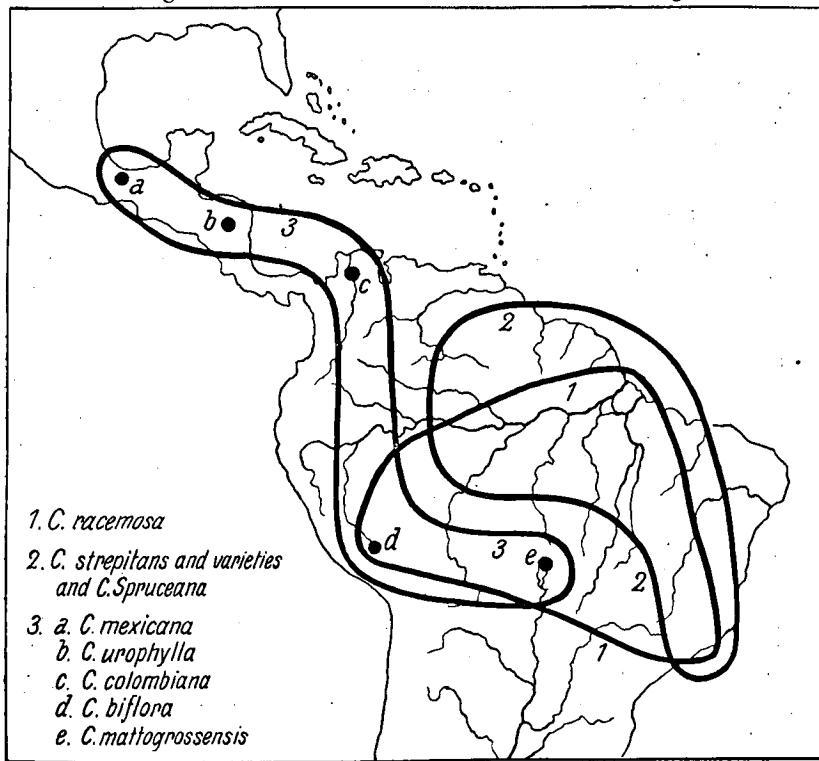


Fig. 1. Geographical distribution of the species of Clarisia.

Grosso. Though the distances between the different localities are very great, these areas, in my opinion, also point to the relationships given in this paper.

5. Synopsis of the genus *Clarisia* Ruiz et Pavon emend. Lanj.

Clarisia Ruiz et Pavon emend. Lanj.; Ruiz et Pavon, Prodr. Fl. Per. et Chil. (1794) p. 128, t. 28; Ruiz et Pavon, Syst. veg. Fl. Peruv. et Chil. (1798) p. 255; Bentham et Hooker, Genera Plantarum III, pars I (1880) p. 377; Engler in Nat. Pfl. fam. III. 1. (1889) p. 81; De Candolle, Prodr. XVI. 2. (1864) p. 155; Baillon, Hist. des Pl. VI (1877) p. 215; Lemée, Dict. descr. et syn. phan. II (1930) p. 183; Weatherby in Kew Bull. (1935) p. 410; — *Sahagunia* Liebm. in Kon. Danske Vidensk. Selsk. Nat. og Mathem. II (1851) p. 316; Bureau in D. C. Prodr. XVII (1873) p. 283, 288; Baillon l. c. p. 211; Bentham et Hooker l. c. p. 377; Engler l. c. p. 82; Lemée l. c. p. . .; — *Soaresia* Fr. Allem. in Revista Brazileira I (1857) and in Arch. da Palestr. Scientif. Rio de Jan. I (1858) p. 142; Bureau l. c. p. 283, 288; Baillon l. c. p. 211; Bentham et Hooker l. c. p. 377; Weatherby l. c. p. 410; Green in Kew Bull. (1935) p. 495; — *Acanthophyl-lum* Fr. Allem. in Revista Brazileira Jorn. de Scienc. Lettr. e artes I (1858) p. 368 and in Palestr. Scient. Rio Jan. (1858) p. 215 (ex Bentham et Hooker); Bureau l. c. p. 284; Baillon l. c. p. 200; Bentham et Hooker l. c. p. 377; Engler l. c. p. 82.

Trees or shrubs. Leaves alternate, bistipulate, petiolate, entire or dentate, membranaceous, subcoriaceous or coriaceous, penninerved. Flowers dioecious. Inflorescence ♂ : pedunculate spikes which are arranged in short racemiform inflorescences or axillary; ♂ flowers consisting of one stamen only, more or less arranged in rows, and intermixed with variously shaped, often peltate or subpeltate bracts; usually at one side a longitudinal strip without flowers and bordered by two rows of peltate or subpeltate bracts; filaments erect. Inflorescence ♀ : ♀ flowers 1—2 in the axils of bracts in racemiform inflorescences or several together in peduncled or sessile capitula; flowers sessile or pedicellate; perianth ovoid, thick, adnate to the ovary, with a small and often irregularly lobed opening; ovary inferior or semiinferior with one pendulous ovule; style short, with two short or long exserted stigmas; fruit globose or ovoid included in the perianth, pericarp membranaceous; seed subglobose, testa membranaceous, albumen 0, embryo erect, cotyledons thick, fleshy, equal.

Distribution: Species 8, from Mexico to Southern Brazil, not in the West Indian Islands.

Key to the Species.

1. a. Leaves usually spinulose-dentate, rarely entire but always with an acute apex. Penduncles vestited with descending hairs with a recurved tip 2.
- b. Leaves entire and obtusely acuminate at the apex. Penduncles not vestited with hairs as described above 3.
2. a. Leaves rounded at the base. Flowering part of the male spikes usually c. 4 cm long 7. *C. Spruceana* Lanj.
- b. Leaves acute or cuneate at the base. Flowering part of the ♂ spikes usually c. 8 mm long, rarely up to 2 cm long 8. *C. strepitans* (Fr. Allem.) Lanj.
3. a. Leaves 13—20 cm long. Side-nerves 6—8 5. *C. urophylla* (Donn. Sm.) Lanj.
- b. Leaves 4—14.5 cm long. Side-nerves 10—16 4.
4. a. Leaves coriaceous or subcoriaceous. Side-nerves c. 16, subhorizontal 1. *C. racemosa* Ruiz et Pavon.
- b. Leaves usually chartaceous. Side-nerves ascending, c. 10—14 5.
5. a. Arcuate connections of the secondary nerves conspicuous on both sides of the limb. Anthers not coronate by a point formed by the enlarged connective, but emarginate 4. *C. mexicana* (Liebm.) Lanj.
- b. Arcuate connections of the secondary nerves inconspicuous above. Anthers coronate by a small point formed by the enlarged connective 6.
6. a. Spikes usually 5 together at the top of a short and stout peduncle, in the axils of persistent bracts. Bracts of the inflorescence and filaments not longer than 0.75 mm; anthers 0.5 mm long 2. *C. colombiana* (Rusby) Lanj.
- b. Spikes two together in the axils of the leaves without a common peduncle or on a short branch (1—2.5 cm long), arranged in pairs, subtended by deciduous bracts, and the 1—2 highest pairs of each branchlet in the axils of ordinary leaves. Bracts of the inflorescence and filaments 1—1.25 mm long; anthers 0.75 mm long 3. *C. mattogrossensis* Lanj..

c. Only female flowers known, with rather long style-branches (c. 10 mm). Leaves resembling those of the two preceding species 6. *C. biflora* Ruiz et Pavon.

1. *Clarisia racemosa* Ruiz et Pavon, Syst. veget. Fl. Peruv. et Chil. (1798) p. 255; Ducke in Arch. Jard. Bot. Rio de Jan. III (1922) p. 40; — *Soaresia nitida* Fr. Allem. in Revista Brazileira I (1857) and in Arch. da Palestr. Scientif. Rio de Jan. I (1858) p. 142 cum tab.; — *Olmedia erythrorhiza* Hub. nom. ex Ducke l. c. p. 40; — *Clarisia nitida* (Fr. Allem.) Macbride in Publ. Field Mus. Nat. Hist. Bot. Ser. XI (1931) p. 15; Ducke in Archivos do Inst. Biol. Veg. vol. 2 (1935) p. 30.

Large trees up to 30 m high; bark outside brown and verrucose, inside red; milky juice white and abundant; wood yellow tuning to brownish-yellow, fine-grained (timber). Leaves alternate, petiolate; petiole canaliculate above, glabrous or minutely and sparsely puberulous, 4-15 mm long. Limb. 4-10 cm long, 1.7-4.2 cm broad, ovate-oblong or oblong, abruptly and obtusely acuminate at the apex, rounded at the base, glabrous but for the sparsely and minutely pilose midrib beneath, shining above, olivaceous green, paler beneath; side nerves c. 16, subhorizontal, reticulately veined; midrib prominent beneath, slightly impressed above, secondary and tertiary nerves prominent on both sides. Inflorescence ♂: flowers in peduncled spikes, which are arranged in a racemiform inflorescence, usually two together in the axils of the leaves; common peduncle 2-4 cm long, shortly pubescent; peduncle of the spikes 2-5 mm long, densely pubescent; flowering part of the spikes 2-6 cm long, c. 2 mm in diameter, cylindric. Flowers ♂ arranged in longitudinal rows and on one side a small longitudinal strip without flowers. Rows bordered by subpeltate suborbicular or semiorbicular bracts, which are fimbriate and minutely hairy above and granulate in the centre. Stamens intermixed with variously shaped bracts; bracts cucullate, spatulate, obliquely peltate or oblanceolate, sometimes adhering at the base and suggesting a perianth. Stamens often in pairs and suggesting sometimes 2-staminate flowers; filaments flat, dilatate at the base. Inflorescence ♀: flowers in racemiform panicles, often 2-3 in the axils of the leaves; rachis pilose, grooved, 5-10 cm long; flowers often two together in the axils of small broad-triangular hairy bracts. Flower ♀: pedicels 5-10 mm long, densely pubescent; at the base of the perianth 4 broad-triangular or suborbicular, subpeltate, rather thick bracts, with a membranaceous margin which is irregularly triangular-dentate and hairy outside

and along the margin. Perianth cupuliformous, thick, fleshy, at the opening thin, membranaceous and obscurely lobed and slightly hairy, for the rest glabrous, adnate to the ovary, opening small; style short, included; stigmas 4-5 mm long, slender, exserted; fruit up to 22 mm long, and 16 mm broad, coronate by the rests of the stigmas; bracts persistent; pericarp woody; seed oblong, up to 12 mm long, testa membranous, cotyledons thick and carnosy.

Distribution: Brazil and Peru.

Brazil: Rio de Janeiro (Fr. Allemao); Corcovado (Glaziou 859! [P. Br.]; Glaziou 20489! [P. Br.] ♀ fl. Nov.); Cosmo Velho, between Botafogo and Laranjura (Glaziou 8289! [P.] ♀ fr. March); near Mundo Novo (Kuhlmann H. J. B. R. 13055! [K. U.] ♂ fl. Aug.); Matto Grosso, near Tabajara, upper Machado R. region, on varzia land, river-shore (Krukkoff 1450! [U.], ♀ fr. Dec.); Pará, Lower Amazon R. near Gurupá (Ducke H. J. B. R. 17204, ex Ducke l.c.); S. Luiz, Rio Tapajoz, forest (Ducke H. J. B. R. 13052! [U. K. P.], ♀ fl. and fr. Dec.); Faro near Amacarú, forest (Ducke H. J. B. R. 13051! [U. K. P.], ♀ fl. Jan.); Lower Trombetas R., forest (Ducke H. J. B. R. 13054! [U.], ♂ fl. Oct.); Cachoeira da Mananha medii, Tapajoz R., forest (Ducke 13052! [K.], ♂ fl. Dec.); Rio Xuigá (Ducke Mus. Par. 16606! [P.], ♂ fl. Dec.); Amazonas, Upper Purús R. (Huber H. J. B. R. 4367, ex Ducke l.c.); Rio Acre (Ule 9317! [L. K.], ♂ fl. July).

Peru: Chinchao et Pozuzo, forest (Ruiz et Pavon, Type [Madrid]); Region of Ucayali and Huallaga (Huber H. J. B. R. and cultivated in the garden, ex Ducke l.c.).

2. *Clarisia colombiana* (Rusby) Lanj. nov. comb. — *Sahagunia colombiana* Rusby, Descr. of three hundred new. spec. of South Amer. Pl. (1920) p. 10.

Large tree. Young branches densely covered with very short hairs. Leaves alternate, netiolate; petioles 9-13 mm long, rather thick, covered with the same very short hairs as the branches, glabrescent, sulcate above, and with many longitudinal, rather deep grooves. Limb 6.5-12 cm long, 2.5-5 cm broad, chartaceous, margin entire, somewhat shining above, dull and paler beneath, elliptic, oblong or obovate, acutely narrowed or rounded at the base, obtusely caudate or acuminate at the apex; acumen c. 3-5 mm broad; midrib strongly prominent beneath, slightly impressed, especially in the basal part (continuation of the mid-groove of the petiole), secondary and tertiary nerves prominent on both sides, arcuate connections of the side-nerves not very conspicuous above, side-nerves c. 12. ♀ flowers and fruits unknown. ♂ flowers in spikes. Spikes usually 5 together on a short (c. 2 mm long) and stout peduncle in the axils of the leaves, rarely sessile; spikes at the top of the peduncle in the axils of persistent

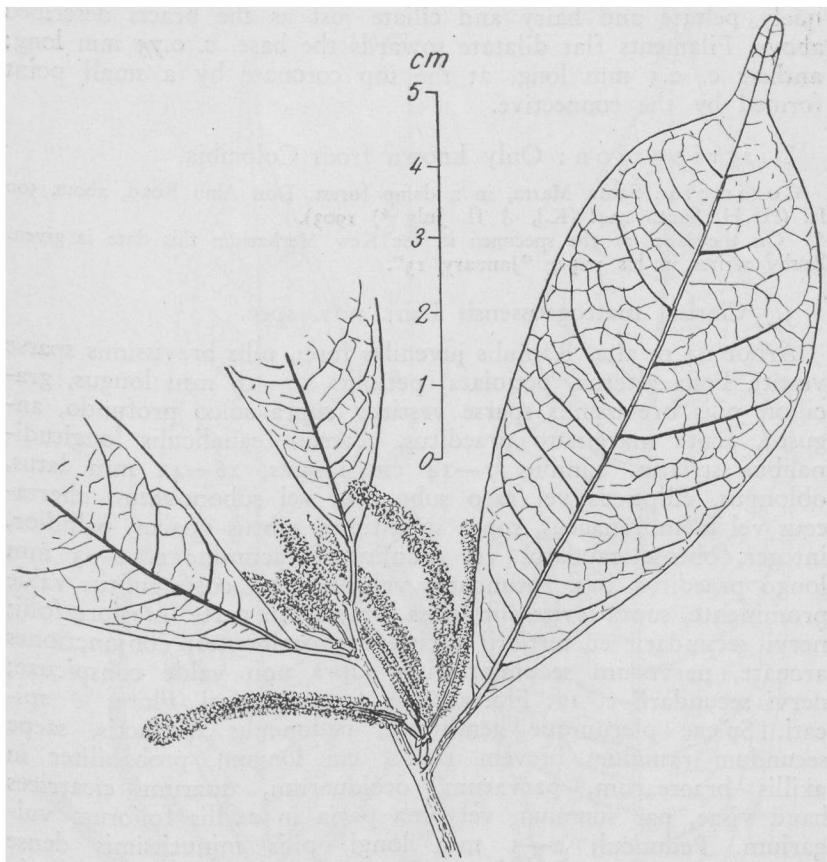


Fig. 2. *Clarisia colombiana* (Rusby) Lanj.

bracts; peduncle, rhachis of the spikes and outside of the bracts densely covered with very short hairs; bracts variously shaped, the two outer ones semiorbicular and nearly 1 mm in diameter, the inner ones lanceolate and c. 2 mm long. Peiole of the spikes very short 1—2 mm long; spikes 2—4 cm long, c. 3 mm broad, on one side a longitudinal strip of 0.5—1 mm broad without flowers; these strips are bordered on both sides by a row of peltate, suborbicular bracts, which are c. 0.75 mm in diameter and finely ciliate along the margins, and above covered with very minute hairs. Stamens more or less in longitudinal rows, intermixed with bracts c. 0.75 mm long, which are usually subspathulate or obli-

quely peltate and hairy and ciliate just as the bracts described above. Filaments flat dilatate towards the base, c. 0.75 mm long; anthers c. 0.5 mm long, at the top coronate by a small point formed by the connective.

Distribution: Only known from Colombia.

Colombia: Santa Marta, in a damp forest, Don Amo Road, about 500 ft. (H. H. Smith 424! [K.], ♂ fl. July *) 1903).

*) On the label of the specimen in the Kew Herbarium this date is given. Rusby writes in his paper "January 13".

3. *Clarisia mattogrossensis* Lanj. nov. spec.

Arbor 24 m alta. Ramulis juveniles fusci, pilis brevissimis sparse vestiti. Folia alterna, petiolata; petiolus 10—16 mm longus, gracilior, pilis brevissimis sparse vestitus, supra sulco profundo, angusto, acute marginato praeditus, ceterum canaliculis longitudinalibus striatus. Limbus 7—14 cm longus, 26—42 mm latus, oblongus, ellipticus vel raro subovatus vel subobovatus, chartaceus vel membranaceus, supra subnitidus, subtus opacus, pallidior, integer, obtuse caudatus vel acuminatus, acumine c. 2—3 mm longo praeditus, basi rotundatus vel cuneatus; costa subtus valde prominente, supra leviter impressa, praesertim parte inferiore folii; nervi secundarii et tertiarii utrinque prominentes; conjunctiones arcuate, nervorum secundariorum supra non valde conspicuae; nervi secundarii c. 12. Flores ♀ et fructus ignoti. Flores ♂ spicati. Spicae plerumque geminatae, pedunculis distinctis, saepe secundum ramulum brevem 1—2.5 cm longum, probabiliter in axillis bractearum, parvarum, deciduarum, quarum cicatrices haud visae, par sumnum vel bina paria in axillis foliorum vulgarium. Pedunculi 2—5 mm longi, pilis minutissimis dense vestiti. Spicae 2—6 cm longae, 3 mm latae, latere uno fascia deflorata, 0.25 mm lata, ordinibus bractearum marginata, bracteis peltatis, suborbicularibus c. 1 mm diam. vel majoribus, margine ciliatis ceterum glabris vel sparse minutissime pilosis. Stamina in ordinibus duplis vel triplis plerumque a bracteis peltatis, marginatis disposita, bracteis spathulatis vel oblique peltatis, ciliatis, interdum minutissime pilosis, 1—1.25 mm longis intermixtis. Filamenta abrupte dilatata, parte inferiore applanata, 1—1.25 mm longa; antherae c. 0.75 mm longae, apice apiculo-connectivi coronata.

Brasilia: Matto Grosso, Tombador ad Rio Serragem prope Diamantino in margine silvae primaevae (Collenette n. 131! [K.], typus!, ♂ fl. m. Julio).

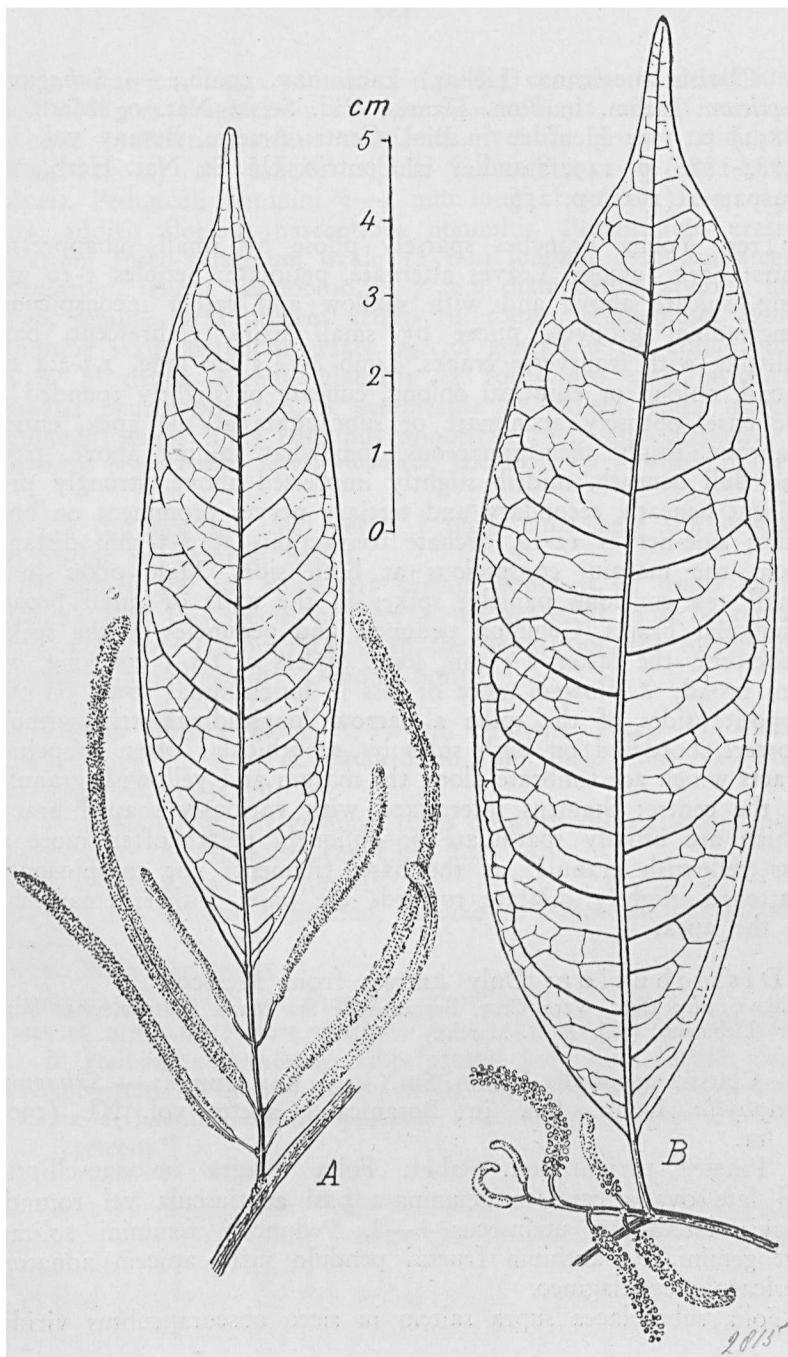


Fig. 3. A. *Clarisia mattogrossensis* Lanj.
B. *Clarisia mexicana* (Liebm.) Lanj.

4. *Clarisia mexicana* (Liebm.) Lanj. nov. comb.; — *Sahagunia mexicana* Liebm. in Kon. Danske Vid. Selsk. Nat. og Math. II (1851) p. 316; Hemsley in Biol. Centr. Americ. Botany vol. III (1882-1886) p. 149; Standley in Contrib. Un. St. Nat. Herb. vol. 23, part 2 (1922) p. 216.

Tree. Young branches sparsely pilose by small subappressed hairs; bark fuscous. Leaves alternate, petiolate; petioles 5-10 mm long, sulcate above and with shallow and rather inconspicuous longitudinal grooves, pilose by small hairs, glabrescent, bark splitting with transverse cracks. Limb 8-14.5 cm long, 2.3-4.2 cm broad, oblong or elliptical oblong, cuneate or slightly rounded at the base, obtusely acuminate or subcaudate at the apex, entire, glabrous, thinly membranaceous, somewhat shining above, paler and dull beneath, midrib slightly impressed above, strongly prominent beneath, secondary and tertiary nerves prominent on both sides; side-nerves 12-14, arcuate connections at 2-3 mm distance from the margin, conspicuous at both sides. Male spikes in a small 1-2 cm long panicle; spikes in the axils of small broad-triangular bracts. Common peduncle and peduncles of the spikes pubescent, the latter 2-5 mm long. Spikes c. 1.5-3 cm long, 2-3 mm broad; ♂ flowers more or less in longitudinal rows, on two opposite sides of the spike a narrow longitudinal strip without flowers, bordered on both sides by suborbicular often subpetiolate bracts which are fimbriate along the margin and yellowish granular in the centre; Stamens intermixed with variously shaped bracts, which are usually spatulate or obliquely peltate, often more or less yellowish granular at the base; filaments not conspicuously flattened, slightly dilatate towards the base; anthers emarginate at the apex.

Distribution: Only known from Mexico.

Mexico: Dept. Vera Cruz, Barranca de Sta Maria Tlatetla, near Mirador (Liebm.) [K.], ♂ fl. March).

5. *Clarisia urophylla* (Donn. Sm.) Lanj. nov. comb.; — *Sahagunia urophylla* Donn. Sm. in Botanical Gazette vol. XL (1905) p. 11.

"Praeter perianthium glabra. Folia integra oblongo-elliptica vel late ovalia caudato acuminata basi acutiuscula vel rotunda, nervis lateralibus utrinsecus 6—8. Pedunculi feminini solitarii aut gemini. Perianthium fructui pendulo infra apicem adnatum, pericarpio cartilagineo.

Folia subcoriacea supra saltem in sicco obscura subtus viridia,

nunc 13—20 cm longa in medio 5.5—8.5 cm lata basi subacuta, nunc 6—8 cm longa 4—5 cm lata basi rotunda, nervis venisque utrinque praesertim subtus manifestis, venulis grosse reticulatis, petiolis 1—1.5 cm longis, stipulis lanceolatis 2—3 cm longis caducis. Pedunculi feminini 3—4 mm longi, fructibus 2—4 capitatis, additis floribus nascentibus nonnullis. Perianthium crasso-carnosum fusco-velutinum ovale 12 mm longum collo subintegro-apiculatum, fructu subgloboso 6—7 mm diametente, stylo 3 mm longo, semine infra apicem affixo rufescente scrobiculoso. Flores utriusque sexus deficiunt. Haec species generis tertia adhuc edita ab S. Mexicana Liebm. glabritie et foliis pro rata latioribus caudatis paucinerviis, ab. S. strepitante Fr. Allem. foliis integris pedunculis saepe binis fructibus minoribus inter alia differt.

In silvis prope Puerto Sierra, Honduras, Jan. 1903, Percy Wilson (n. 54)."

As I did not see this species I have cited here the original description of Donnell Smith.

Though I am not absolutely certain about it, it seems highly probable that this species belongs in the genus. It must be related to *C. mexicana* (Liebm.) Lanj. In the description the differential characters are given by Donnell Smith.

6. *Clarisia biflora* Ruiz et Pavon, Systema veget. Fl. Peruv. et Chil. (1798) p. 255; cf Macbride in Publ. Field Mus. Nat. Hist. Bot. Ser. XI (1931) p. 16.

"C. floribus femineis geminis, foliis obovatis oblongisque venosis longo acumine. Flor. Per. et Chil. tom. 8.

Arbor quadraginta ferè ulnaris.

Habitat in Cuchero, Chinchao, Pozuzo et Pillao ad Chaeahuassi ripis.

Floret Majo, et Junio.

Vernaculae Yasmich' et Piamich' appellatur.

Vires et usus. Ex arbore undique secta succus albus abundè fluit, qui in resinam compactam, albo-fuscum, inodoram parum elastica spissescit. Ex trunco asseres trabesque optimae ad varia opera tignaria efficienda extrahi possunt. Cortex extus fuscus, interius albo-lutescens."

I have cited here what Ruiz and Pavon said about this species, as I saw two leaves and flowers only. Beneath follows my description of this material.

Leaves petiolate; petioles sulcate above and with many longitudinal shallow grooves, sparsely vestited with minute appressed

hairs, bark transversely splitting; limb c. 10—12 cm long, c. 5 cm broad, oblong, subcoriaceous, rounded at the base, obtusely acuminate at the apex, somewhat shining above, dull and paler beneath, midrib prominent beneath, slightly impressed above, secondary and tertiary nerves prominent on both sides, especially beneath, arcuate connections of the secondary nerves rather inconspicuous above; side nerves c. 10. Female flower: pedicel 1—2 mm long, minutely hairy; at the base of the perianth 4 bracts, of which one is smaller than the 3 others; bracts c. 1 mm in diam. semiorbicircular subpeltate, fimbriate; perianth subglobose c. 5 mm in diam., thick, fleshy or subleathery, adhering to the ovary, opening at the apex, c. 1—1.5 mm in diam., with a short cylindric irregularly lobed collar; styles c. 10 mm long, outward curved at the apex.

It is clear from the characters that this species belongs to the group of *Cl. mexicana* (Liebm.) Lanj. Probably it is most closely related to the species *Cl. colombiana* (Rusby) Lanj.

7. *Clarisia Spruceana* Lanj. nov. spec.

Arbor parva, glabra, lactifera. Folia alterna, petiolata; petiolus 8—10 mm longus, transverse grosse rugulosus. Limbus 12—21 cm longus, 3.2—6.7 cm latus, oblongus vel elliptico-oblongus, basi leviter rotundatus, apice acute cuspidatus, margine integer, leviter undulatus, firme membranaceus vel subcoriaceus, supra subnitidus, subitus opacus et pallidior, nervis utrinque prominentibus; nervi secundarii c. 12, 1—2 mm a margine arcuate connecti. Spicae 3 plures in pedunculo commune c. 2 mm longo congestae, in axillis bractearum parvarum, usque 10 mm pedunculatae, pedunculis pilis retroflexis apice uncinatis vestitus; pars florigera usque 4.5 cm longa, 2—3 mm lata, latere uno fascia deflorata 1 mm lata, pilis supra descriptis sparse vestita, ordinibus bractearum marginata, bracteis irregularibus saepe subquadrangularibus. Stamina plus minusve in ordinibus, bracteis irregularibus interdum peltatis, 1—1.5 mm longis intermixtis. Filamenta applanata, c. 1 mm longa; antherae parvae, c. 0.25 mm longae.

Venezuela: ad flumina Casiquiare, Vasiva et Pacimoni (Spruce 3279! [K.], fl. ♂, viridis, m. Jan. 1853).

This species is closely related to *C. strepitans* (Fr. Allem.) Lanj. It differs especially in the length of the spikes and the shape of the leaves.

8. *Clarisia strepitans* (Fr. Allem.) Lanj. nov. comb.; — *Acan-*

thinophyllum strepitans Fr. Allem. in Revista Brazileira vol. I (1858) p. 368; and in Palestr. Scient. Rio Jan. (1858) p. 215, according to Bentham et Hooker l.c. p. 377; — *Sabagunia strepitans* (Fr. Allem.) Bentham et Hooker, Genera Plant. III. 1. (1889) p. 377; Engler in Nat. Pflanzenfam. III. 1. (1889) p. 82; — *Sabagunia racemifera* Hub. in Boletim do Museu Goeldi vol. V (1908) p. 334.

Small trees or shrubs. Young branches sparsely vestited with retroflexed, uncinate hairs. Leaves alternate, petiolate; petioles 6—10 mm long, sparsely vestited with the same hairs as the young branches, glabrescent, bark transversely splitting, sulcate above. Limb 8—18 cm long, 3—7.5 cm broad, chartaceous or subcoriaceous, elliptic, oblong or subobovate oblong, acute at the base or contracted into the petiole, rather long and acutely acuminate or cuspidate acuminate at the apex, margin subrecurved, remotely sinuate dentate, and teeth with a long, sharp, cartilaginous spine, surface of the leaves slightly bullate between the secondary nerves and the arcuate connections, shining or somewhat shining above, dull and paler beneath; nerves and veins prominent on both sides, side nerves about 9—11. Male flowers in spikes. Spikes several together fascicled on a very short peduncle, about 1—2 mm long, or sometimes ramosc and the common peduncle c. 3 mm long, in the axils of the leaves. Spikes in the axils of small, broad-triangular c. 0.75 mm long bracts, which are glabrous or very sparsely vestited with minute hairs. Peduncle of the spikes 1—3 mm long, c. 0.5 mm in diam., densely covered with short retroflexed, uncinate hairs. Flowering part of the spikes 5—8 mm long, 2—4 mm broad, on one side with a narrow longitudinal strip without flowers, bordered by suborbicular, obliquely peltate bracts, about 0.6—0.8 mm long and which are vestited with minute hairs above, especially along the margin. Stamens more or less in rows, intermixed with variously shaped bracts, which are either more or less obliquely peltate, or subspathulate cucullate or oblong cucullate, outside densely covered with minute hairs especially along the margin, glabrescent. Filaments about 1.5 mm long, rather slender, and slightly dilatate towards the base; anthers small c. 0.25 mm high. Female flowers in the axils of the leaves in short capituliform inflorescences, which are either nearly sessile or with a very short up to 6 mm long common peduncle, bearing at the top several, often two, branches which are up to 10 mm long and bear at the apex several female flowers crowded together. Peduncles vestited with the same hairs as those of the male inflorescences. In each inflorescence in the

specimens seen usually 2—3 flowers in fruit, the others still in a young state, perhaps not developing. Female flowers c. 3—5 mm in diam., subglobose or oblong. Perianth fleshy, surrounding the semi-inferior ovary and the style, urceolate, stigmas protruding, outside vestited with small patent hairs. Ovary one-celled with one pendulous ovule; style c. 1.5 mm long, glabrous; stigmas c. 1 mm long, 0.7 mm broad, minutely papilliferous. Fruit up to 17 mm long, 12 mm broad, ovoid, glabrous, surrounded by the fleshy perianth, pericarp chartaceous or membranaceous, Seed c. 8—10 mm long, ovoid, testa membranous; embryo straight, cotyledons thick and fleshy, equal.

Distribution: Brazil and the varieties also in Guiana.

Brazil: Rio de Janeiro (Fr. Allem. tab. fl. ♂ et ♀ et fr. Oct. Type!); Maranhão, Maracassamé R. region, Campo de Boa Esperança, on terra firma, border of open field (Krukoff 1869! [U.], ♂ fl. Sept. 1932, low tree); Pará, Obidos, in the forest „capueiras” (Ducke 2885, ♂ fl. Type of *Sahagunia racemifera* Hub.); Serra da Escama, in the forest (Ducke 919c, fr. Dec.); Bragança, forest (Ducke H. J. B. R. 183231 [U.], ♀ fl. and fr. Febr. 1923, fruits coccineous); Fortlandia, Tapajoz R. (Krukoff 1054! [U.], ♂ fl. Sept. 1931, young tree 55 ft. high, 2.5 ft. in diameter breast high); Serra de Santarem, forest (Ducke H. J. B. R. 18326! [U.], ♂ fl. Sept. 1923); Amazonas, Madeira R. region, near Calama, in terra firma (Krukoff 1309! [U.], fr. Dec. 1931, this specimen has leaves with an entire margin or with only a few spines); without precise locality (Sello! [K. N-H.], ♂ fl.).

Beneath I have described four new varieties to this species. It is highly probable that they will be proved to be merely forms of this species. Three of them are described on a single specimen only. I know perfectly well that it is probable that I have described specimens only instead of varieties, but, for the present I think it is better to deal with them in this way.

var. *guianensis* Lanj. nov. var.

Folia circa medium plerumque uno vel utroque latere profundius esculpta, saepius quam in specie latiora et longiora, interdum integra vel subintegra. Inflorescentiarum muscularum omnes partes minores quam in specie, pedunculis 1—2 mm longis, spicis 5—15 mm longis, 1—1.25 mm latis. Fructus minor et angustior.

Distribution: French Guiana and Surinam.

French Guiana: without precise locality (Herb. Rudge! [N-H.], fl. ♂; Martin! [K.] Typus ♂!; unknown collector! [K.], fl. ♂); near Karouany (Sagot 530! [K. P.], fl. ♀ and fr. 1859, the specimen in the Kew Herbarium has entire leaves, those of the specimen in Paris rarely bear a few teeth in the basal part of the leaves; under the same number is a specimen in the Kew Herbarium with very long and narrow leaves e.g. 3.5 cm broad and 19 cm long).

Surinam: Upper Surinam R. near Goddo (Stahel 120! [U.], Typus ♀, small tree with orange fruits Jan. 1926).

In the Kew Herbarium is a specimen collected by Peckolt (Peckolt 110! [K.], Cantagallo, Brazil) which is intermediate between the species and this variety. The leaves in this specimen are entire and some of them sculptured. The shape of the leaves resembles more that of the species. The specimen bears a vernacular name, "Diconroque", and it is stated on the label that the Indian tribe Coroaches collect the seeds which are cooked and eaten.

var. paraensis Lanj. nov. var.; — *Sahagunia paraensis* Hub. in sched.

Folia 6—9.5 cm longa, 2—3.5 cm lata, elliptico-obovata, apice acute acuminata, basin versus in petiolum contracta, irregulariter denticulata, parte inferiore integra; costae secundariae utrinque c. 9.

Brazil: Pará (Huber 6965! [U., Typus; P.] fl. ♀).

var. micranthera (Warb.) Lanj. nov. comb.; — *Sorocea micranthera* Warb. nom. nud. in Bull. Soc. Bot. France, Mém. 3 (1913) p. 644.

Folia 6—16 cm longa, 2—4.5 cm lata, oblanceolata vel elliptico-oblanceolata, apice longe acute acuminata, basin versus in petiolum contracta, irregulariter denticulata vel subintegra; costae secundariae utrinque c. 9. Inflorescentiae masculae quam in specie.

Brazil: near Rio de Janeiro between Mendanha and Realengo (Glaziou 12172! [K. Typus!; P.] fl. ♂).

Vernacular name: Bainha d'Espada. This name was also cited by Freire Allemao with *Acanthophyllum strepitans* Fr. Allem.

var. cuyunensis Lanj. nov. var.

Folia 9.5—17 cm longa, 2.7—5 cm lata, obovato-oblonga, basin versus cuneato-angustata, apice longe acute acuminata, integra; costae secundariae c. 9—10. Inflorescentiae masculae pedunculis communis usque 5 mm longus, pedunculi spicarum usque 8 mm longi, spicae usque 2 cm longae, quam specie graciliores.

British Guiana: Cuyuni R. near Camasia Road, alt. c. 100 ft. (Forest Dept. 1029! [U. Typus!; K.], fl. ♂ Febr. 1931, small tree about 25 ft. high, 2.5 in. diam. fl. creamy-white and sweet-scented).

Explanation of the plate of Tab. IX by Abat.

FIGURA I.

a. — Raiz con sus tuberculos y hebras.

FIGURA II.

- b. — Tallo ramoso enroscado hacia la izquierda.
- c. — Hojas reclinadas, conduplicadas, simples, enterisimas, poco venenosas, las venas poco manifiestas, entre oblongas y agudas.
- d. — Espigas simples, axillares que salen en el remate de las ramas.

FIGURA III.

- e. — Caliz de dos hojitas aquilladas, y membranosas.
- f. — La concavidad de estas 2 hojitas.
- g. — La membrana que circuye la quilla.
- h. — Corola de cinco pétalos.
- i. — Filamentos cinco.
- k. — Anteras 5 versatiles y echadas.
- l. — Germen aovado al revés.
- m. — Estilo trifido.
- n. — Estigmas bifidos inclinados.
- o. — Semilla una de figura de corazon al revés.

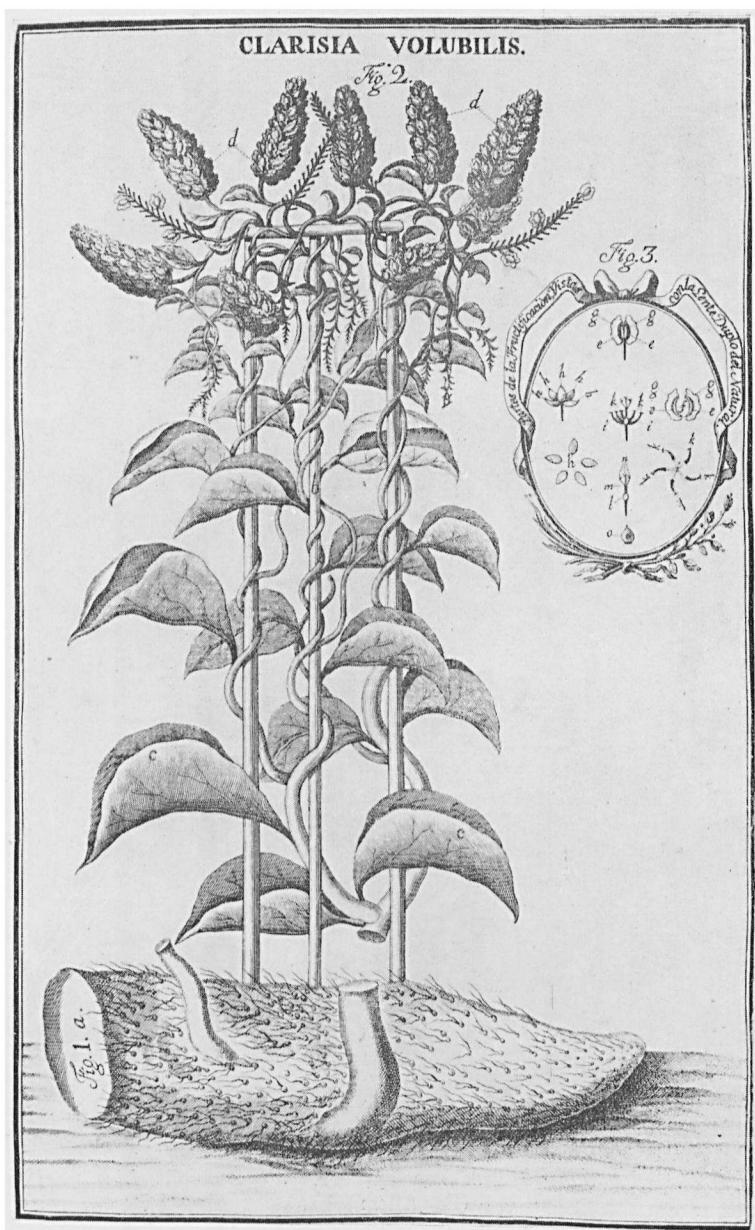
Explanation of Tab. X by Freire Allemao.

Fig. 1a. — Inflorescentia mascula. 2a. — Ejus ramus, seu receptaculum unum, valde, auctum. 3a. — Stamen, ante pollinis emissionem. 4a. — Id. post emissionem pollinis. 5a. — Bractea. 6a. — Receptaculum foemineum. 7a. — Id. valde auctum. 8a. — Flos foemineus. 9a. — Id. verticaliter sectus. 10a. — Portio rami Acanthinophylli strepitantis fructus maturos gerentis. 11a. — Bacca una separata. 12a. — Eadem dimidia parte perianthii dempta. 13a. — Fructus, perianthio denudato. 14a. — Id. pericarpio verticaliter secto. 15a. — Semen. 16a. — Embryo. 17a. — Id. cotyledone una separata, ut radicula et gemmula videnatur.

Explanation of Tab. XI by Freire Allemao.

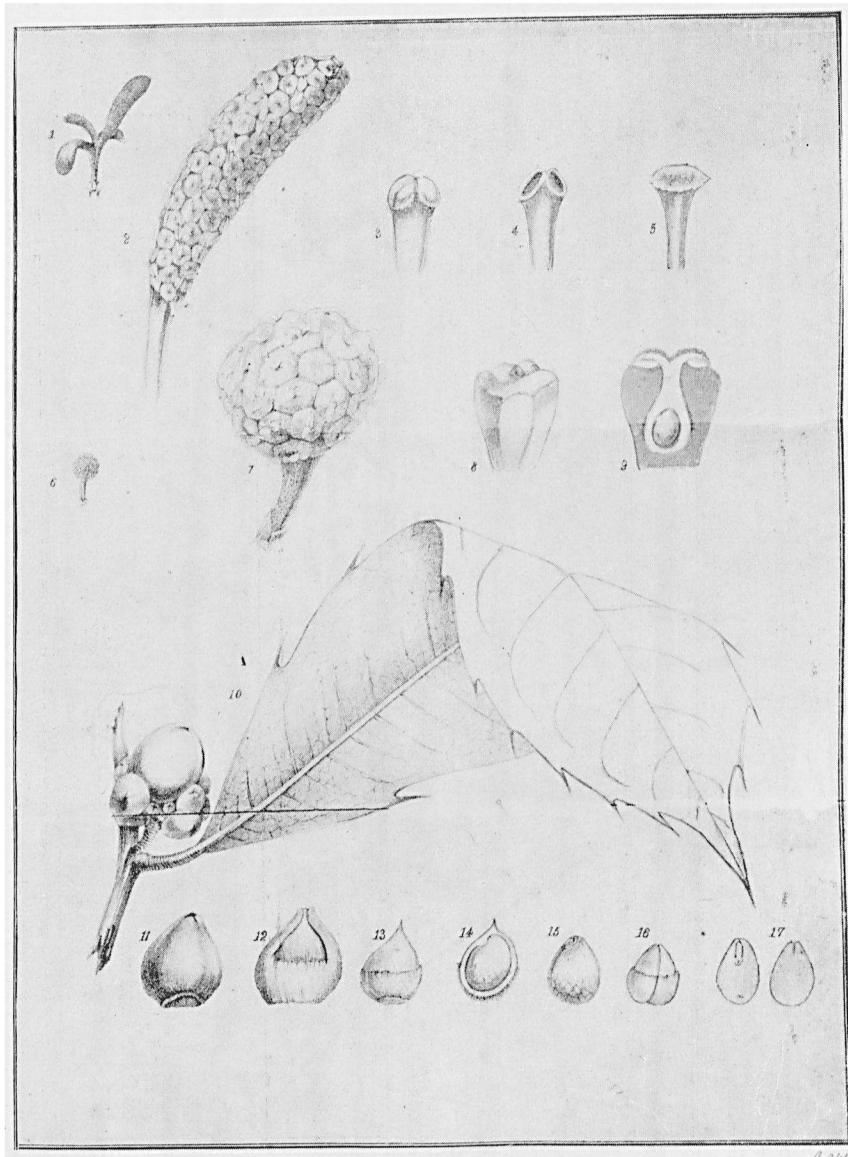
Figura 1a. — Ramus, magnit. nat., cum floribus masculis. 2a. — Ramus foeminus, cum fructibus perfectis, mag. nat. 3a. — Amentum staminiferum, mag. nat. (a) Squama peltata (b) Stamen. 4a. — Ramus novellus, cum stipulis. 5a. — Ramus florigerus foemineus, mag. nat. 6a. — Flos foeminus, auctus. 7a. — Idem ante fecundationem, longitud. sectus, ovulum exhibens. 8a. — Fructus longitud. sectus. 9a. — Semen. 10a. — Embryo. 11a. — Idem, separatis cotyledonibus, ut corculi partes videantur.

Tab. IX



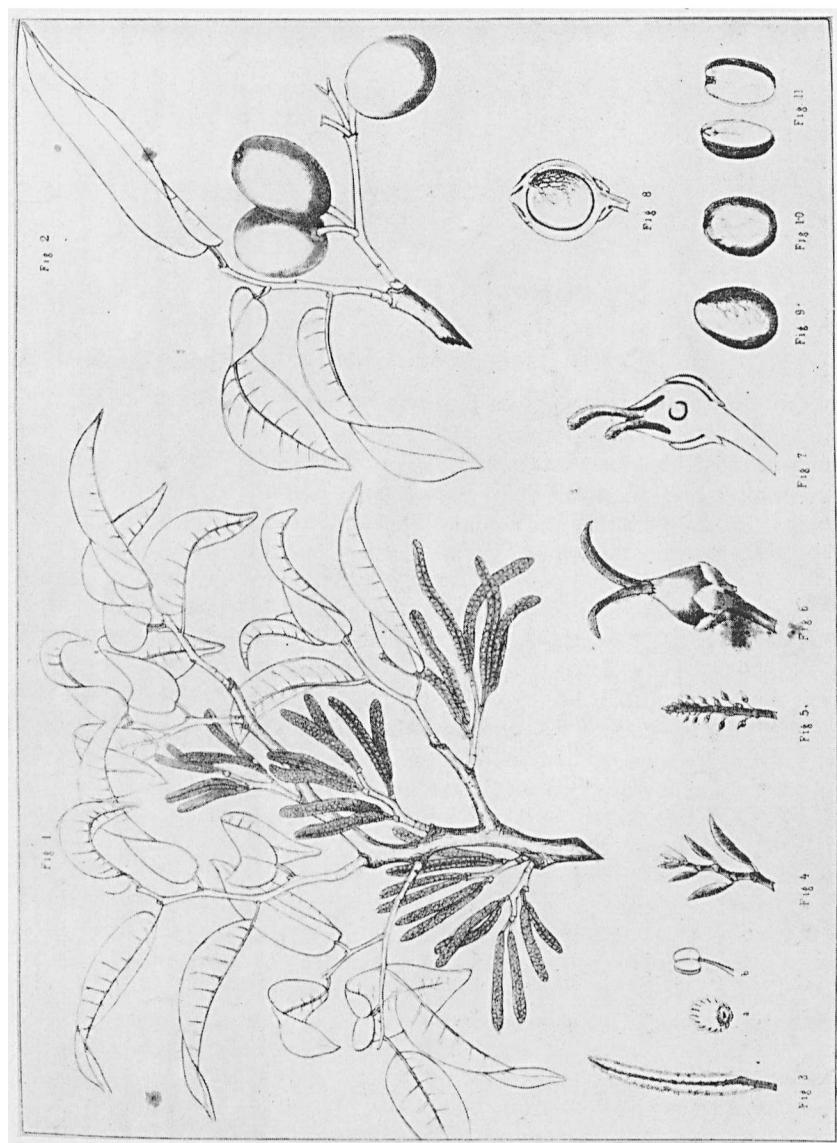
Tab. IX. *Clarisia volubilis* Abat = *Anredera vesicaria* (Lam.) Gaertn.

Tab. X



Tab. X. *Acanthinophyllum strepitans* Fr. Allem. = *Clarisia strepitans*
(Fr. Allem.) Lanj.

Tab. XI



Tab. XI. *Soarea nitida* Fr. Allm. = *Clarisia nitida* R. & P.
See the explanation of the plate by Freire Allemao.